

Lab 3: Battleship (Sänka skepp) in javascript

Overview

This is an exercise to get everyone comfortable with javascript. You are also encouraged to use CSS3. Any javascript library may be used, jQuery might even be recommended.

In this labb you will do a partial (or full) implementation of the game Battleship. There are many versions of battleship and you should use one of the more common versions.

Specific Requirements

1. The grid must be generated, no manually coding a 9x9 grid...
2. It must be easy to change the size of the board. (e.g. change one variable at one place)
3. No tables for the grid, tables are for showing data, [not for layout](http://stackoverflow.com/questions/83073/why-not-use-tables-for-layout-in-html) (<http://stackoverflow.com/questions/83073/why-not-use-tables-for-layout-in-html>).
4. The program needs to work on both firefox and chrome. (this requirement should be trivial)
5. use strict (javascript strict mode)
6. Use a linting tool of your choice. It should report no errors (you may opt out of rules you don't agree with but you may not opt out because of laziness)
7. Use at LEAST 5 different types of CSS properties. The CSS should be placed in another file. It should be learning and fun [rather than good looking](http://www.themostamazingwebsiteontheinternet.com/) (<http://www.themostamazingwebsiteontheinternet.com/>).

Definitions

Button: The term square in this text is any clickable HTML object of your choice.

"Ship": A button that is visually different from the others when clicked.

Assignment.

You will implement the game Battleship. The base version of the game will not enforce the shape or placing of ship parts, that is left for the bonus assignment. The game assumes that there are two people trying to play at the same computer and that the players are honest and looks away when the other player is placing his ships.

The game should have a main play area that's 9x9. The game will start with one player placing ships by clicking one square at a time. Clicking twice should un-place the ship part. When the person is done placing the ships he will click a start button and it is time for player two to try to find them or something similar.

There should be a scoreboard to keep track of number of placed ships, how many has been sunk and total shots. There should also be a button to reset the board when finished.

This assignment is very free form but the game should still be playable. How player turn order is implemented is fully up to you how to implement.

Tips:

When you are debugging use the web console for printing things.

To open the Web Console in Firefox press Ctrl + shift + k.

https://developer.mozilla.org/en/docs/Tools/Web_Console.

To open it in Chrome press ctrl + shift + j.

<https://developer.chrome.com/devtools/docs/console#using-the-console-api>

You can inspect elements on most browsers to look at what's actually happening.

References:

Tips and trix:

<http://modernweb.com/2013/12/23/45-useful-javascript-tips-tricks-and-best-practices/>

A commonly used tutorial:

[W3schools tutorial](#)

Strict mode

https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Strict_mode

Questions:

What is the differences between == and ===? What is the best practice for using which?

Bonus X3

Version 4. Enforce that the “Ship” buttons are in the shapes of the battleship ships, aka they are straight and they are of length 2, 3, 3, 4 and 5 respectively (or whatever rules you are playing by). For any clarifications look at the rules for battleship at wikipedia or some similar site. The ships should either be placed randomly (player vs computer) or by placing them manually and the pressing the “start” button (player vs player). Placement rules should be enforced either way.

Questions:

Do javascript have classes? Are prototypes classes? **Motivate the answer.**

What is a callback in Javascript?

How are callbacks used asynchronously?